25 Years DACS

DACS.doc

A Computer & Technology Newsletter

November 2017 | Volume 28, Issue 11 | $2.00

Next Event: November 7

3D Design

With Mike Kaltschnee

Directors' Notes

Danbury Area Computer Society
Board Meeting Minutes
Wednesday, October 4, 2017

The meeting was called to order at 7:04 pm by the DACS President, David Green.

In attendance were Board members Richard Corzo, Dick Gingras, Bert Goff, and David Green (President). Andy Woodruff was not present. Also present was John Kinkopf. The minutes were taken by Richard Teasdale.

(Names in italics denote responsibilities for actions.)

- The Minutes of the 9/6/2017 Board Meeting were accepted.
- The September Treasurer's report was received from Bert.
  - o Dues receipts were very low: $40. Total Year to date (9 months) dues receipts were about $200 less than for the same period of 2016. Expenses continued to be normal and the 9-month year-to-date totals were about the same as 2016, adjusted for John Patrick's book expenses (which he covered).
  - o The Resource Center Fund continues to have a balance of $655.
  - o Dick suggested that members in arrears be contacted by phone as well as receiving reminder e-mails.
- The Membership report was received by e-mail from Jim Scheef.
  - o 88 paid-up members (including 2 new), and 11 in-grace, for a total of 99.
  - o 40 people attended the 10/3/2017 general meeting, including 9 visitors.
- Websites:
  - o Richard reported no significant problems on the DACS website.
  - o An attempt was made to correct the ongoing CiviCRM problems by rebuilding the database indices, but problems still exist. Other potential solutions are being sought.

Old Business

- Programs:
  - o At the November general meeting, Mike Kaltschnee will provide an interactive session using TinkerCAD, to teach the audience about 3D Printing.
- Preview: *Andy*.
- Review: TBD.
- Dick suggested that the Robilotti room be used, if available, since the audience will be using laptops, notebooks, etc. *David* will contact the hospital about this.
- John Patrick will speak at the December general meeting about Home Automation.
- Preview: *Andy*.
- Review: TBD.
  - o Richard is in contact with Andrew Ribeiro, a member of the Danbury AI Meetup group, who may be available to speak about Artificial Intelligence. The Danbury AI group's meeting schedule is an obstacle since it is the same as DACS general meetings. Richard will speak with him further.
  - o Dick has been in contact with the Apple Store about a presentation. Their policy has always been to insist that events be held in the store but there appears to be a possibility that the policy will change.
- Renovation of the Resource Center (RC): Dick reported that a donation of used carpet may be available from the Matrix Center. He is in conversation with Bruce Tuomala about this.

New Business

- It was agreed that the November Board Meeting will take place on November 8 (2nd Wednesday of that month). *Richard* will correct the website calendar.
- Snacks for General Meetings:
  - o *Lisa Leifels* will provide snacks for November, and Richard will bring
  - • *Bert* will contact Jim about asking non-renewing members (by e-mail) for feedback concerning why they are leaving DACS.

The meeting was adjourned at 8:17 pm.

—Richard Teasdale

IN THIS ISSUE

Membership Information

dacs.doc, ISSN 1084-6573, is published monthly by the Danbury Area Computer Society, 65 Legion Rd, New Milford, CT 06776. Annual subscription rates: $60 to regular members, $40 electronic access (included in dues).

Postmaster

Send address changes to Danbury Area Computer Society, Inc., 4 Gregory Street, Danbury, CT 06810-4430.

Editorial Committee

Managing Editor: Richard Teasdale
Production Editor: Allan Ostergren

Contributors

Charles Bovaird, Richard Corzo, Drew Kwashnak, Lisa Leifels, Dave Mawdsley, Bruce Preston, Jim Scheef, Annette van Ommeren, Andy Woodruff

Member of apcug — An International Association of Technology & Computer User Groups

2015 Newsletter Contest — apcug — First Place

Dick Gingras APCUG Liaison
rgingras@dacs.org

Apple User Group

Officers

DACS GENERAL NUMBER: (203) 744-9198
PRESIDENT: David Green *dacsprez@dacs.org*
VICE PRESIDENT PROGRAMS: *vpprograms@dacs.org*
SECRETARY: Bert Goff • **TREASURER:** Bert Goff

Directors

dacsboard@dacs.org

Richard Corzo	(203) 797-1518	*rcorzo@dacs.org*
Richard Gingras	(203) 426-1780	*rgingras@dacs.org*
Bert Goff	(860) 355-8895	*bgoff@dacs.org*
David Green	(203) 797-8682	*dgreen@dacs.org*
Andy Woodruff	(203) 744-9588	*awoodruff@dacs.org*

Committees

NEWSLETTER: Richard Teasdale: *dacseditor@dacs.org*,
PROGRAM: *vpprograms@dacs.org*
WEB MASTERS: Richard Corzo (*rcorzo@dacs.org*), (203) 797-1518
Annette van Ommeren (*avanommeren@dacs.org)*, (914) 232-0149
PRESS RELEASES: Dave Green (*dgreen@dacs.org*)
APCUG LIAISON: Dick Gingras (*rgingras@dacs.org*)
MEMBERSHIP COORDINATOR: Jim Scheef *(membership@dacs.org)*
RESOURCE CENTER: (203) 748-4330 • **WEB SITE:** *http://www.dacs.org*

HelpLine

Our former telephone HelpLine has been replaced by our web-based DACS Community Forum at *http://forum.dacs.org*. We have topic-specific forums where DACS members can post questions. Questions may be answered by Workshop leaders or other DACS members. If none of the categories fit your question, just post it to the Ask DACS forum.

Topic	Forum
Linux	Linux Workshop
Desktop publishing and website design	Web Site Design Workshop
Mac and iPhone/iPad/iPod touch	Apple Workshop
Online/small business	Online Business
Single board computers	Single Board Computers
Smartphones & Tablets	Mobile Devices Workshop
Social media	Social Media
Video capture/processing	Video
Windows	Windows Workshop

There are Many Ways to Join DACS

An easy way to join DACS is to attend one of the monthly general meetings. General meetings are normally held on the first Tuesday of each month at Danbury Hospital. Or join right on our Website via the PayPal link, where you may also pay by credit card without a PayPal account.

General meetings are always free to the public, but only members benefit fully from DACS' many other events, activities, and publications. As a member you become part of a dynamic computer group in the Greater Danbury Area.

You will receive a subscription to *dacs.doc*, our award-winning monthly newsletter, packed with news and information pertinent to computer users of all levels. In addition to interesting feature stories, the newsletter contains a monthly calendar of events and a recap of the the previous general meeting and last month's workshops. Members may also post questions to the DACS Community Forum.

Members may also attend the monthly workshops, where topics relating to computers, peripherals, software, and operating systems are discussed. Workshops meet throughout the month at our Resource Center in downtown Danbury unless mentioned otherwise in the calendar. Occasionally, special topic sessions are also offered to members.

Individual/Family Memberships

Annual membership dues are $40.00 for individuals or for each family living at the same address. Annual memberships which include a printed newsletter are available for $60.00 a year.

November Meeting Preview

3D Design:
Learn how in one evening

Preview by Andrew Woodruff

Date: Tuesday, November 7, 7:30 p.m.
Location: Danbury Hospital Auditorium
Presenter: Mike Kaltschnee, Danbury Hackerspace and CTNext

BRING A LAPTOP, treat this evening as a class, and do the tutorial training steps, as Mike Kaltschnee returns to show us how to do 3D design. At the end of the evening, you will be able to use one brand of free software to design useful items. Mike says this will be "0 to 60 miles per hour in one hour"! Or, come without a laptop and just follow along. You will come away from the evening knowing what 3D is all about.

In 3D design, you create a picture of an item that you want to fabricate. The picture shows the shape with all the dimensions and details. The output from your 3D design can go directly to a 3D printer or a laser cutter. A "3D design" is a single picture that includes all the details, rather than the series of views from different directions.

Mike is a cofounder of Danbury Hackerspace (*https://danburyhackerspace.com/*, a non-profit corporation that provides 3D printers and other tools for its members. He has presented at DACS several times. In his 2015 talk "Anyone Can Make a Mobile Application!", Mike demonstrated how to design a mobile application with simple software that does not require any coding. Mike is a mover and shaker in the Danbury area, and DACS is fortunate that he is presenting to us!

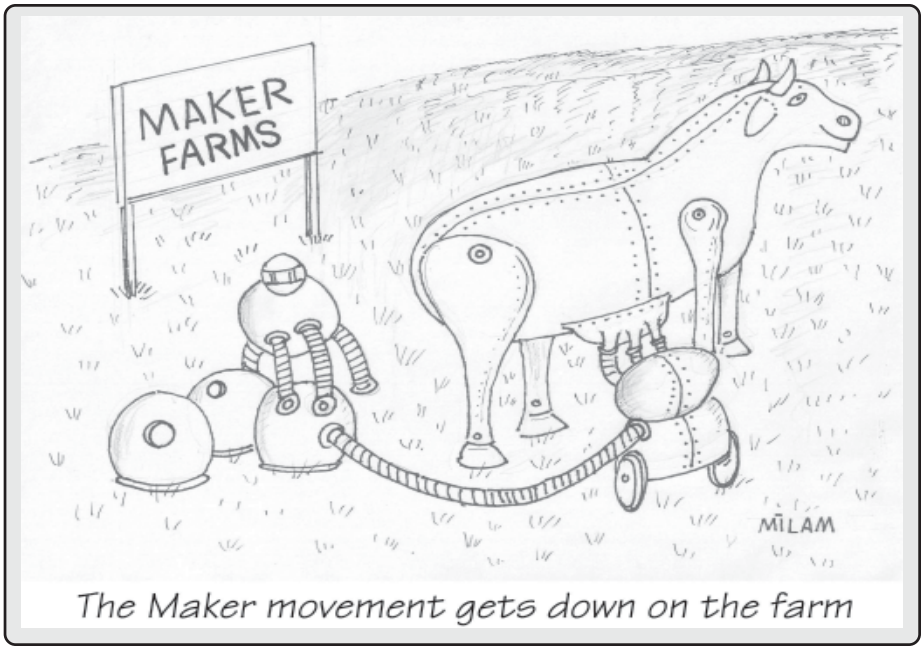
Mike will demonstrate Tinkercad. Tinkercad is free. And it's easy to use. No previous "computer aided design" (CAD) experience is necessary. When you use Tinkercad, you start by selecting existing basic shapes (like a cube) and placing these on the picture. You adjust these shapes on the picture, so that each shape either adds or removes material. You can build your design up to a very complicated shape. Then you add exact dimensions. You can also group shapes together to create a model.

This will be the first "interactive DACS general meeting"! You can use any laptop computer, Windows or Mac, or even a Chromebook. All you need is a browser, because Tinkercad is not installed in the computer but rather simply runs in a browser. The hospital will provide guest internet access, and Mike will help attendees to connect to the hospital system. You will need to register a Tinkercad account, and you can set this up at the meeting. You will need to provide your email address and birthday, but the registration does not require a credit card or any commitment.

As I wrote earlier, the output from your 3D design can go directly to a 3D printer or a laser cutter. Mike will explain how you can use his Danbury Hackerspace resources to fabricate the thing that you designed. He will also provide some commercial websites that will fabricate 3D designs for a price.

Mike says his tutorial will include designs of a name tag, a barn and even a chicken. Come wrap your brain around 3D design!

DACS General Meetings begin at 7:30 pm and are free and open to the public. Members and prior attendees are encouraged to extend invitations to anyone interested in this topic. DACS holds its general meetings in the Creasy Auditorium at Danbury Hospital,. There is plenty of free parking in the Rizzo guest parking garage adjacent to the auditorium. Go to dacs.org/directions/ to find directions and parking information.



October Meeting Review

Ransomware

By John Kinkopf

"IF YOU CREATE ANTI-MALWARE products, the days of looking something up in a virus definition file are long gone," warned our speaker Chris Furey. Chris is a founder, managing partner and chief technical officer of Danbury-based Virtual Density. Virtual Density is in the business of taking physical assets such as PCs and servers, and converting them to virtual, cloud-based assets for dependable IT that doesn't have to sit on a lap, or a server so to be accessed anywhere.

I lost precious media files back in my Windows XP days visiting malicious websites. I heard, "Back up, back up, AND back up," every other week on a computer radio show - without explaining HOW: with an external drive and its software. Or today storing files in the cloud.

Companies used to be more rigid about which files each employee needed access to, but that's being lost to sharing servers. The cost of convenience is security. Chris told of ransomware striking a business client three times, in the course of opening emailed resumes. They recovered with their backup on the first strike. The second time, backup [done using an external hard drive and its software, or cloud services] had been mistakenly left offline for an extended period. But by examining the strain of ransomware [I suspect from its signature ransom note], in this fortunate instance there was a public key found online, perhaps reverse engineered, to treat, decrypt and restore affected files. Alas, when caught off base for ransomware strike number three the company bit the bullet opting to pay the ransom, demanded in bitcoin - a cryptocurrency by which criminal perpetrators elude capture and prosecution. Chris told of the tangled stages of transacting bitcoin that spanned days. Buying bitcoin by credit card was negated by about a $75 cap, whereas ransoms usually run $500 and up.

When your screen displays a ransom note "you are a victim of crimeware . . . where the money is today." Crimeware is any program, application or agent that delivers a payload into a computer system that elicits illegal activity.

Phishing and Spear Phishing

Ransonware enters a user's system via clicking on an email link or opening an email attachment, or maybe by clicking on a malicious ad, or visiting an infecting website. In 70% of incidences ransomware gets through the firewall and email scanner, lurking - waiting to get in by luring a person's curious nature to click on things - what phishing is designed to exploit. Phishing is the route by which ransomware is distributed. The typical payload contains a document. When you open up that document it uses a dropper program that basically executes in the background, purposefully not using your system resources so as not to give itself away, and it may sit dormant awhile. Once it launches it scans the local hard drive and looks for any network. When it begins encrypting files to lock them up it puts a graffiti tag-like extension at the end of that file to indicate it's been encrypted. Before clicking on a link in an open email one should double-check its authenticity by hovering the mouse over the link to open a box in the lower left corner that reveals the actual hyperlink.

Mass phishing attack emails tend to be sloppily written. Spear phishing targets an individual or company, by perhaps spoofing - masquerading as - trusted email from Amazon, Netflix, UPS, Facebook, YouTube, anyone. As with hyperlink checking, one may hover the mouse over the addresser to reveal a suspicious email's true sender, or right-click to check it in the email's header. The FBI claims 2016 losses from spear phishing attacks to be $3.1 billion, but companies often won't disclose they were victimized for publicity reasons. HIPAA doesn't require disclosure of confidential medical patient data theft.

Generic salutations, poor grammar, misspelling, urgency, threats, or any request to verify an account or provide personal information are tip-offs of phishing emails. Beware of an attachment with a non-standard file extension, such as ending in m (for macro), or .zip files which easily conceal malware. A phishing target could be fooled by info available from prior data breaches, or by social engineering calls to colleagues to disclose confidential information that may be used to fool you. Inspect suspicious email addresses for lookalike registered domain names. Chris recommends any business register both the .com and .net website domain. In Chris' mind, employees' liability to phishing's bait should be ferreted out with clandestine emails containing inert payloads, followed by a, "Here's where you went wrong," conversation.

The vast majority of attacks are by organized crime. Russia, Ukraine, and Vietnam are places where universities supply hirees for crimeware. Because they are versatile, ransomware phishing campaigns are thought to have a 30% return, which is 6x more effective than legitimate email campaigns.

The Bitter Pill of Paying a Bitcoin Ransom

You can't know the trustworthiness of the perpetrators. There's nothing stopping the malicious thief from just running off with the paid ransom, without decrypting the encrypted files. In Chris' experience assisting ransonware victims, most ransom holders do restore files after payment, and will extend deadlines.

To pay by bitcoin, an account must be set up, which is done by first buying or obtaining a bitcoin wallet [as confusing as paying by the digital currency]. Many sources distribute bitcoin wallets, and many pretend to. Chris and an audience member used Coinbase to obtain the bitcoin wallet. Coinbase required two-factor authentication, for which the audience member used Authy with his phone and home computer. One must next arrange a transfer of bitcoin to the bitcoin wallet. One converts dollars to whatever the current exchange rate for bitcoins is, plus a service fee, and puts that into the bitcoin wallet.

In a 3 am Google search Chris found a "banker" who'd transfer the funds. Chris agreed to meet "his new banker" at a Ridgefield coffee shop; he charged a percentage amounting to about $80, plus overcharging a bit much, Chris said, $40 over the day's bitcoin exchange rate.

On to transferring the funds. Don't use the infected computer to pay the ransom - chances are it's also been infected with a key-logger or something else, if you haven't been thorough to clean the computer out

Ransomware Cont. on page 8

Workshops

Workshop Notes: November 2017

Apple. Focuses on all aspects of the Mac and iPhone operating systems.
Contact: Richard Corzo (*applesig@dacs.org*).
Meets 2nd Tuesday, 7 p.m. at DACS Resource Center.
Next Meeting: Nov 14

Jobs. Networking and jobs search

Contact: Charles Bovaird, 203-792-7881 (*aam@mags.net*). Go to DACS Community Forum (*http://forum.dacs.org) for job listings*.

Linux. Helps in installing and maintaining the Linux operating system. Also of interest to Apple owners using OS X.
Contact: Dave Mawdsley, *linuxsig@dacs.org*

Meets 3rd Wednesday, 7:30 p.m. at the DACS Resource Center.
Next Meeting: Nov 15

PC Maintenance. Review of PC hardware and OpSys maintenance and use.
Contact: Charles Bovaird, 203-792-7881 (*aam@mags.net*). Go to DACS Community Forum (*http://forum.dacs.org*).

Online Business Workshop. Informal member gathering sharing ideas on creating an online source of income.
Contact: Steve Harkness (*onlinebizsig@dacs.org*)
Meets second Monday in Brookfield, or by Webinar.
Next Meeting: Check *dacs.org*.

Single Board Computers Workshop. Explores small cheap computers like Raspberry Pi, Arduino, Netduino, Beaglebone, and more. Meets at 7:00 p.m on the 3rd Thursday at the DACS Resource Center.
Contact: Jim Scheef (860-355-0034)
Next Meeting: Nov 16

Video Workshop. Explores all aspects of video capture and production, including both inexpensive and professional choices for cameras and editing software.

Meets on the 3rd Thursday of certain months, typically at 7:00 pm at the Resource Center. Check the Calendar for details.
Contact: Andy Woodruff (awoodruff@dacs.org)
Next meeting: Check dacs.org

Web Development/Design Web Development/Design This workshop is looking for a new moderator. Being a workshop leader is a great way to share information, learn new techniques, promote your business, and interact with like-minded people. Extensive web knowledge is not required, but a willingness to open a topic for discussion and enjoy the contributions and feedback from the attendees. Meets every 3rd Tuesday of the month, but repeating date can be changed if needed.

Contact *avanommeren@dacs.org,* or *webmaster@dacs.org* .
Next meeting: TBA–Look for updates

Let's Meet Up

Have you ever wondered who the other members of DACS are, what their interests are, and whether they have experience and knowledge that could benefit you? Would you like to be able to identify and contact the other members, sharing information with them, but without having to disclose your e-mail and phone details?

Your Board has recognized that one of the benefits of DACS membership should be the means to communicate with each other in this way.

At the July general meeting, we began with a quick series of introductions, giving attendees an opportunity to communicate their interests.

The Board has discussed at length how to promote communication between members, and has looked at the pros and cons of a number of ways to do this. The general meeting introductions were our first effort in this regard; another one we would like to offer is a resource already in use by DACS: Meetup.

DACS has been a user of Meetup for several years, to distribute and share information about general meetings and workshops. For this service, we pay fees. Now we would like to leverage the full potential of Meetup, by encouraging its use for individual DACS members as a channel of communication.

If you are not already a user of Meetup, please go to *www.meetup.com* and sign up to become one. There is no charge for individual users. After you have joined Meetup, you can join the Danbury Tech Meetup (emphasizing DACS' broader technology focus), and see a list of upcoming meetings.

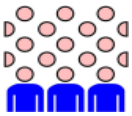
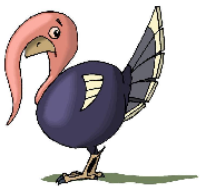
Meetup gives you an opportunity to create a profile of your interests. If you wish, you can upload a photo of yourself. You will also find that there is a Message function, which allows you to send private messages to other Meetup users, without using e-mail. We hope that the resources of Meetup will prove to be a valuable addition to DACS membership.

Question: What is Meetup?

Answer: according to Wikipedia, "Meetup is an online social networking portal that facilitates offline group meetings in various localities around the world. Meetup allows members to find and join groups unified by a common interest, such as politics, books, games, movies, health, pets, careers or hobbies."

November 2017

Danbury Area Computer Society

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Oct 2017 S M T W T F S 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 Dec 2017 S M T W T F S 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31			1	2  **Danbury Hackerspace Open House** 7:00 PM	3	4
5	6	7 **AI Developer Meetup Hackerspace** 7-9 PM  **General Meeting** 7:30 PM	8  **Web & App Developer Meetup Hackerspace** 7-9 PM  **Board of Directors** 7:00 PM	9 **Danbury Hackerspace Open House** 7:00 PM  **Membership Committee** 7:00 PM Jim Scheef 860-355-0034 Cancelled	10	11
12	13	14  **Apple** 7:00 PM Richard Corzo *applesig@dacs.org*	15  **Linux** 7:30 PM Dave Mawdsley *linuxsig@dacs.org*	16 **Danbury Hackerspace Open House** 7:00 PM  **Single Board Computers Workshop** 7:00 PM Jim Scheef 860-355-0034	17	18
19	20	21  **Danbury Inventors' Meetup Hackerspace**	22	23 	24	25
26	27	28	29	30 **Danbury Hackerspace Open House** 7:00 PM		

***Ransomware**, Cont. from page 5*

with something like Malwarebytes or HitmanPro. Chris likes to make four passes with different products before declaring the computer clean. [Note: UK-based security giant Sophos acquired SurfRight, the Dutch developer of HitmanPro, in December 2015.]

The ransomware is designed for victims to be able to traverse to the dark web where illicit stuff is traded in anonymity, where regular browsers don't go, and the malware controls the transaction. Cops won't help you. Chris has conversed with the FBI, but they lack the skills and resources. In Bridgeport he was told they half-understand it. They don't even do incident tracking.

When you click to pay the ransom it sets up a VPN connection using the Tor anonymizing browser to find places on the dark web and for confidential communication. It sends a message if payment has been made, and sends the key to decrypt your files. There's a little file that you download that will let you decrypt one or two files for free and they do that as some sort of good faith that you will get your files back. They do that by giving you a code that's not going to decrypt everything. They give you a key that will pretty much undo everything. Chris has seen some files that did not get decrypted.

The recent widespead WannaCry attack was disarmed before going out all over the world, but in the disarming process the keys to those that hadn't yet paid the ransom to decrypt their files was lost forever.

If dragging folders and files over from backup, search for strange file extensions and delete those files. The tools that you use to catch the malware itself, Malwarebytes or apps, won't restore encrypted files. Chris answered that the major difference between the free and pay versions of Malwarebytes is the included scheduling and more frequent updates.

Advances in Ransomware Control

Of the multiple defenses he uses Chris raved of a small Dutch company that detected ransomware in real time. Their product did so by examining the CPU, RAM, and disk drive to create a baseline of normal usage, from which it would notice odd disk drive writing behavior, network usage, and CPU usage characteristic of ransomware encryption. The product caches disk writes and queues those files up, and the moment it catches files becoming encrypted, usually within 5-6 files, it stops the disk writing and restores files to their pre-encryption versions. They were acquired by Sophos, a UK-based security company that Chris networked with at a spring security conference. [Note: Days after the general meeting Sophos held a Netherlands Day conference.] Chris said Sophos took it off the market until they incorporate it into a larger product, but Chris said a vendor he wouldn't divulge has license to sell it through year's end. Chris wanted to maintain his company's secret advantages. Sophos also acquired Virginia-based machine learning malware detection and prevention company Invincea in February 2017 [Note: Invincea had acquired sandbox isolation pioneer Sandboxie in 2013]. The performance penalty in running these real-time protections should be worthwhile. Chris endorsed a Sophos free download. Which? Their free antivirus is available from https://home.sophos.com . I've also seen a free HitmanPro scan offer, and other free trials. [Sophos has a YouTube channel.]

For Mac drives someone at Chris' company uses a data recovery tool which can be used remotely.

Encrypting your files would safeguard them from ransomware. Though they fall vulnerable while decrypted during use, and there's a performance price for encrypting. Chris' cloud backup encrypts files prior to sending them to the cloud, which is then sent to the cloud by an encrypted SSL connection, or an encrypted connection in another port.

Days after the October general meeting Microsoft announced its Windows 10 fall update addresses ransomware attacks with a new Controlled Folder Access option in Windows Defender, protecting libraries and other folders a user may include.

Advances in Spreading Ransomware

The dark web's fastest growing toolkits are phishing kits. If you've run a wizard to install anything on your home computer, well, there are wizards for phishing construction kits for sale, where one could check off desired attributes. Website cloning software can deploy graphics to look like a legit site. Or a kit can create spam and send them out to victims in bulk. Thanks to NSA vulnerability, tools they developed are available on the dark web.

Chris answered, for years there were PC sandboxes that were like Teflon for sessions, nothing would stick. But ransomware now can detect sandboxes, lay dormant, and weasel in.

Chris said he's not seeing variable fuses on the ransonware bomb, yet, by which the backup's infection would not be apparent when you went to back up your attacked computer. Chris thinks the next step, ransomware that waits 30 days, is certain, because this organizations' backups will likely be infected, and ransom payment is guaranteed. Most organizations can't go back 30 days for a clean back up. Best unplug your backup when you backing up is done to reduce infection opportunities.

Chris answered he hasn't seen phone-ruining ransomware, but that doesn't mean it couldn't happen.

Chris answered automatic back up is best. The key with backups is putting in enough work in progress that rolling back 6 hours won't hurt you. Ransomware has gotten sophisticated enough to recognize file extensions of popular back up applications. Problem is, when your backup is hooked in and sharing in the network it will get infected, too.

An acquaintance victimized by ransomware advised:

"Be willing to let your things go. Take the risk, otherwise you are Encouraging, Aiding and Abetting Global Terrorist Tech Criminals. Back it up. Baby."

Tinkerer's Tales

Close Your Windows before You Leave on Vacation
or, Can Google-Powered Devices Eclipse Microsoft for Travel?

by Greg Skalka

I'VE USED MICROSOFT Windows-based computers for probably 90% or more of my computing lifetime. While I've used Apple computers and tablets a bit, and currently use an Android smartphone and a Chromebook regularly, I am without a doubt more experienced with Windows (Win7 and XP) than any other operating system. If compared to languages, I'm somewhat multilingual, but my primary (if not native) language is Windows. That is why it was a difficult decision for me to choose to leave my Windows laptop behind on the weeklong trip I made with my wife to Nebraska to see the total solar eclipse on 8/21/17, and instead use my smartphone and Chromebook on our travels.

On almost every trip I've taken since I bought it on 2012, my Fujitsu Windows 7 laptop has been my traveling companion. From business trips to vacations to weekend getaways, this small, 14" laptop has taken care of all my computing needs while away from home. It has allowed me to connect to the internet (through both wired Ethernet connections and Wi-Fi) for email and information from the web. It temporarily stored the hundreds of digital photos I'd take each day while on ten-day vacations in Hawaii on its hard drive. It aided me in navigation through stored and online maps. It stored electronic copies of our travel documents, camera manuals for reference and books, music and movies to keep me occupied while on the airplane. It even allowed me to write my newsletter column on the plane ride back home, to avoid missing our editor's submission deadlines. Before I had this laptop, my 14" XP laptop performed the same travel duties.

I have been using my 11.6" Acer Chromebook more and more over the last two years. I now use it to take notes at UCHUG board meetings and SCRUGS (Southern California Regional User Group Summit) meetings, as it is much lighter than my laptop and has longer battery life. Because it is so quick to boot up (typically under 15 seconds), it is what I grab to get a quick answer off the web when not sitting in front of my laptop (though I now have an Android smartphone and go to the web on it, I prefer the Chromebook's larger screen).

Two years ago, I even took my Chromebook on a Hawaii vacation along with my laptop; I was not brave enough to take the Chromebook alone. This eclipse trip was the first time it went instead of the laptop (it is also our first vacation since that Hawaii trip - I really need to get out more). I knew the Chromebook would be great for web access, as it boots so fast. It only has Wi-Fi, but few hotels have wired Ethernet available in their rooms these days anyway. Though the Chromebook can't run Thunderbird for email like my laptop, I can still get my Juno email through their web interface.

My main concern with the Chromebook is its lack of internal storage. To capture the entire eclipse experience, we would be taking four still cameras and four video cameras, all digital, on this trip. I could have just bought more extra SD memory cards to use in the cameras, but found I could use an external USB hard drive (2.5" type that gets all its power from the USB cable) as mass storage for photos and videos. The file manager in the Chrome OS does not use the familiar copy and paste; it is a little confusing to the Windows user in that dragging a file from one memory device to another copies it instead of moving it. I practiced on all the cameras before we left and wrote the process on a sticky note on the Chromebook, so I felt the photo storage process using the external USB drive would be OK.

It is funny how technology sometimes comes full circle. In the early days of digital photography, memory cards were small and rather expensive, so a few companies made external photo hard drives. These were small rotating platter drives with a built-in battery and memory card reader or USB OTG (On The Go) interface. You could connect your camera or memory card to one of these photo drives and it could copy off your photos without any other controlling device like a laptop. I still have a few of these photo drives, but their capacities now seem so small. Today memory cards are large and relatively inexpensive, but I still prefer to copy my photos off to a hard drive; I think it is easier to organize and deal with one hard drive than a bunch of memory cards.

Once we got on the plane to leave on vacation, I discovered the other main issue with the Chrome OS - its lack of support (drivers) for some file types and devices as compared to more the popular Windows. We flew on Southwest Airlines from San Diego to Omaha, through Las Vegas. On one of our flight legs, our plane was equipped with onboard Wi-Fi. Southwest provides some free TV shows and a flight tracker in addition to paid movies and an internet connection ($8 per day) on their Wi-Fi-equipped planes (projected to be on all their fleet next year). I recall watching the free TV the last time I flew; unfortunately, the streaming video format they use is not supported by the Chrome OS. It does not appear I could have used the paid internet service either, as it only listed Windows, iOS and Android for supported devices. At least I could use the flight tracker on my Chromebook. I tried to watch the inflight free TV on my Android smartphone, but it required a Southwest video app that I would have had to have downloaded from the Google Play store before I boarded the plane.

Once at our destination, the Chromebook proved its worth by providing good and quick internet access at our hotels and copying photos and videos from cameras to the external USB hard drive as needed. Copying whole folders of photo JPEG files worked fine, although there were a lot of files, they were not too large. The video files I was copying were up to 1 GB each, which could take 5 minutes or so apiece, so I chose to copy each video file individually rather than as multiples. It seemed the Chromebook took longer to copy files than my Windows laptop did. Since the Chromebook's processor is not as fast or powerful this would not be surprising, but I'd need to do some testing at home to confirm this.

Viewing the photos and videos on the hard drive also brought out the Chromebook's limitations. It could display the JPEG photo files, but scrolling through them was slower than on my more powerful laptop. The Chromebook could view the AVI and MP4 video files my dashcam and action cams produced pretty well, but the MTS files my digital camera creates in video mode could not be viewed as all. I downloaded an app called VLC from the Chrome OS store to view these .mts files, but the playback was very jerky. My digital video camcorder records in high definition AVCHD format, which the Chromebook cannot handle.

I usually receive around a hundred emails a day on my primary email account (Juno), but I could use the Chromebook to tame my email while on travel. I used the Juno web mail interface about once a day to delete all but the most essential emails, so that I could

download them into Thunderbird on my laptop upon my return home. I could of course handle those emails that were critical from the web mail interface, but that proved to be necessary for only a few.

The real star of the traveling tech show proved to be my smartphone. I used it to communicate via texts most of the time, rather than emails. Through the camera app I had installed before we left, I was able to view the three Samsung web cameras in our house on the phone and feel confident everything back home was safe. Unfortunately, at this time the Chromebook does not support all Android apps, so my home web cams could not be viewed on the Chromebook. Google is supposed to be fixing Chrome to allow the use of all Android apps, which will be a big benefit; we Chromebook users are still waiting.

I also used my smartphone to run Google Maps for navigation, though as I feared this worked well only in the major cities. Out in the country (which is most of Nebraska), where there is limited cell coverage, new map data could not always be loaded by Google Maps and location searches could not be made. Fortunately, I also brought my Magellan auto GPS receiver, which contained map files to navigate anywhere in North America. Google Maps did provide much better navigation, traffic and point of interest searching where cell coverage was good, so we usually ran both the smartphone and Magellan GPS for navigation, using each as appropriate to the situation. In San Diego, we take for granted that we will have good cell coverage as we drive. In Nebraska, away from the major cities the cell coverage can be poor, even along the Interstate highway.

With all the cameras and tech tools we brought, we could have a great vacation and see the eclipse in totality for almost two and a half minutes, taking way more photos and videos than we probably needed. I'd seen partial solar eclipses before, but the totality we experienced was a wondrous thing. The next chance to see a total solar eclipse in the U.S. will be on April 8, 2024, less than seven years from now. It will be visible from Texas through the middle of the eastern U.S. and up to Maine. I'd like to see that one as well. With the way my Google devices worked on this trip, I'd definitely consider leaving Windows at home again. But a lot can change in the tech world in seven years. Who knows what kind of technology I'll have to take on my travels by then?

Greg Skalka *is president, Under the Computer Hood User Group, CA.This article appeared in the September 2017 issue, Drive Light (www.uchug.org; president (at) uchug.org, and is reproduced by permission for APCUG member groups.*

Beasties and Nasties

How to Destroy Your Computer in Just Minutes and Why You Should Avoid Installing PUPS (Potentially Unwanted Programs)

By David Kretchmar

THERE ARE PLENTY of new computers being used that are performing much more slowly than they should. One of the quickest ways to turn a fast, new computer into a slow system crippled by malware is to start downloading software from the wrong sites. Or by downloading the wrong software from what appears to be the right site.

Newer computers being slowed by unwanted programs is a bother, but the damage done by PUPs can be much more serious; PUPs can be responsible for programs that make it impossible to access any of your files, or otherwise ruin your system.

Every time you download anything from the Internet you first issue permissions that enable the opening of a conduit or vector between the Internet and your computer. The series of complex events is mostly invisible to you, except for your clicking on that virtual button that starts the whole process.

Bing and Google searches often can take you where you don't want to go. When searching for popular software, sponsored search results (which result in unwanted programs) often appear at the top of the search results page, along with links from the actual software source sites. Often those ad links try to install software on your computer that you do not want. It could be anything; it could be a fake driver update program or a scam system cleaning program. Note that my Bing search for VLC media player (left) first showed 4 sites NOT associated with VLC - bad sites.

Testing Misleading Advertisement links

How bad is it? To find out, I installed a fresh Windows 10, plus all Windows updates, on a freshly formatted hard drive. I downloaded and installed the free version of Avast! Antivirus software that brought a hitchhiker of its own - Google Chrome. OK, I wanted Chrome, but not every user would, so I considered this an invasive act by a program I downloaded for protection.

I used Edge, Firefox, and Google Chrome and started using Google and Bing search engines to start searching for popular free programs. The programs I sought are often the first programs that get installed on a PC; Firefox, Google Chrome, OpenOffice, iTunes, Adobe Flash, Java, Adobe Acrobat, VLC,

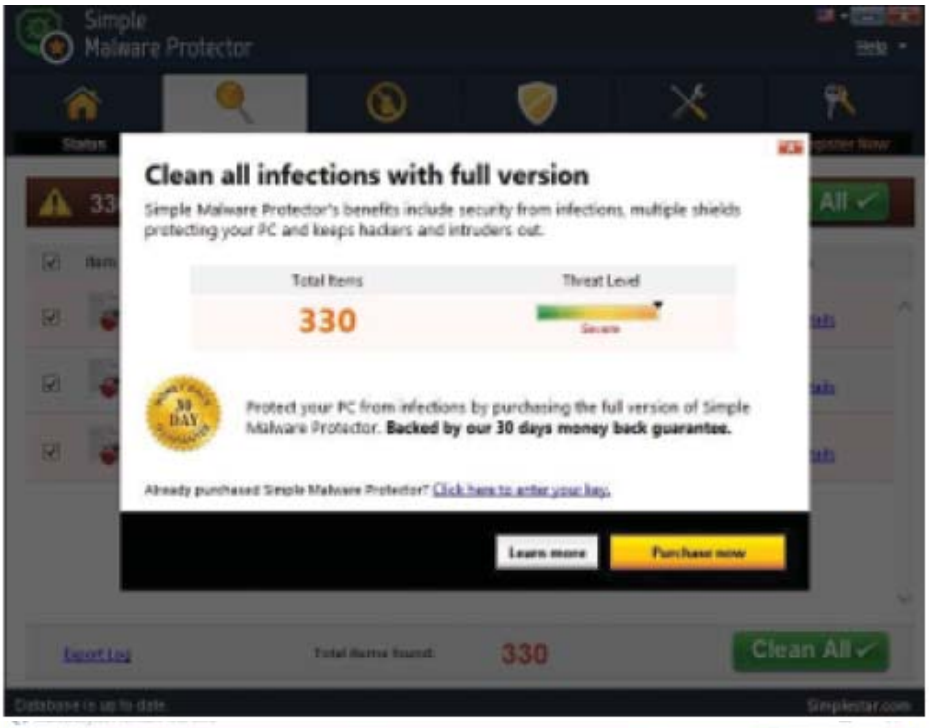
and WinZip. Then, I carelessly clicked on ad results, which appeared above or on the same first page as "real" search results. These paid ads were identified by notes and highlighted in a very pale color to differentiate them (slightly) from the actual search links that appeared nearby.

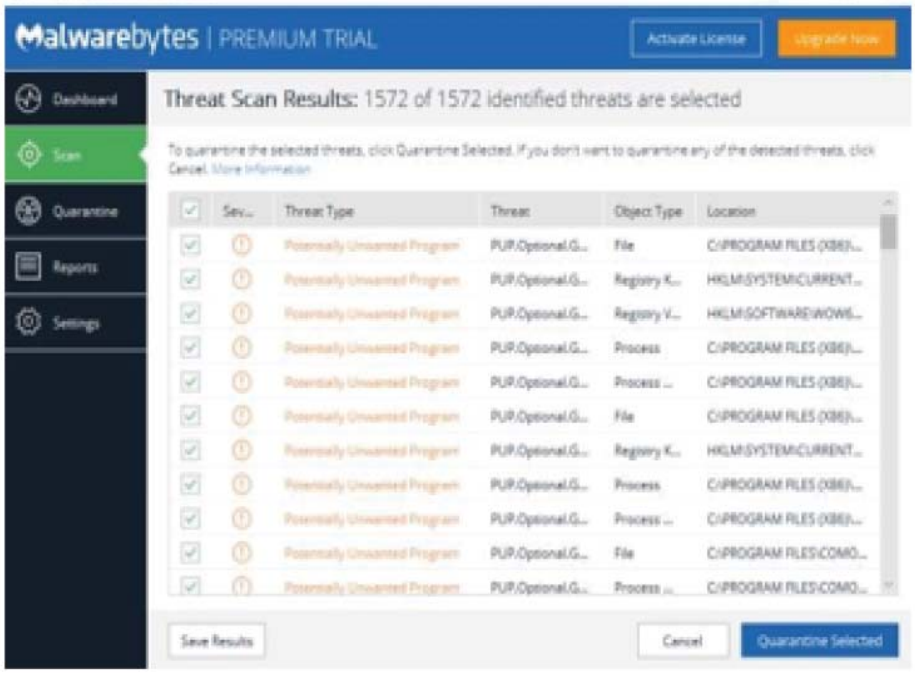
The ads didn't appear after every search and the ones that appeared varied among searches and were different for different browsers. Sometimes, the first paid ad link actually took me to the software's true source site (i.e. searching for Google offered www.google.com first). Often Avast would block a download it recognized as harmful, but Avast did not catch many problems.

For all of the searched for programs, I was able to bring up more questionable sponsored search results within seconds of repeated searching. Misleading results showed up in all search engines and I could not determine that any browser offered better or worse protection than others.

For each ad link, I clicked through and installed the respective programs via the link or button provided. Instead of delivering just the application I was looking for, all of the paid links attempted to tack on unwanted programs. In some cases, if I was careful to read all of the fine print and uncheck boxes, I could get the files I was looking for without a bunch of extra "added value" software, but it was very difficult.

For the purposes of this article, I acted as an inexperienced user (or an experienced user who's not paying attention), and clicked my way through ads and dialogue boxes that looked like the End User License Agreement (EULA) we're used to seeing through when installing software.





And ... They Got Me!

After installing just a few programs this way, I started accumulating browser toolbars (Bing, Yahoo, and Google), and noticed my search engine and home page had been hijacked to something unwanted. As I continued the process, Windows started slowing down to a crawl.

After installing all of the programs on my list, I opened Windows 10's Programs and Features and each browser's extensions and add-ons and counted 39 items that had been installed in addition to the programs I intended to get. On rebooting, three new programs launched popup windows at startup, including two that started running virus/registry scans as soon as they launched, and a couple that flashed warnings windows and offered fixes if I registered and/or upgraded to the full paid version.

Remember this was originally a clean install of Windows 10 that needed nothing.

Within a few minutes my computer became noticeably slower, plagued by numerous popups, and was becoming essentially unusable.

All of these were nasty, but if even a small fraction of them were, I would be in real trouble.

Conclusions and Recommendations

Most of us will have to download some third-party (non-Microsoft) software from the Internet. This does not have to be dangerous if you pay attention that the software is being offered from the true home site of that product. NEVER download software from any sponsored link, unless the desired software creator is the sponsor.

Do not depend on your anti-malware program to protect you. It will catch some issues, but not all.

David Kretchmar *is a computer hardware technician, Sun City Summerlin Computer Club, NV (www.scscc.org / tomburt89134 (at) cox.net).*

This article appeared in the April 2017 issue, GigiBytes Gazette, *and is reproduced by permission*

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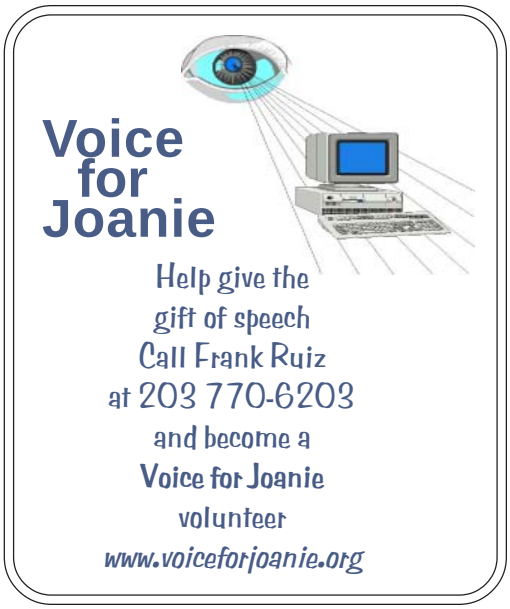
Danbury Area Computer Society
65 Legion Rd
New Milford, CT 06776



Future Events:

November 7
3D Design & Printing
Mike Kaltschnee

December 5
TBA

January 2
Artificial Intelligence
Andrew Ribeiro

February 6
TBA